

REMARKS

Claims 1-35, 37-71 and 73-78 were pending and were rejected. Claims 2, 10, 15-18, 20, 25-26, 28, 30-35, 38, 46, 51-54, 56, 61-62, 64, 66-71 and 73-78 have been cancelled without prejudice solely for the purpose of facilitating prosecution of this application. Claims 1, 3, 5-7, 11-14, 19, 21-24, 27, 29, 37, 39, 41-43, 47-50, 55, 57-60, 63, and 65 have been amended. New claims 91-100 have been added. No new matter has added. The applicant respectfully requests reconsideration of the pending claims in light of the above amendments and the following remarks

1. Rejections under Section 101

Claims 30-35 were rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. While the applicant does not agree that the claims were directed to non-statutory subject matter, claims 30-35 have been cancelled without prejudice in this Amendment. The applicant submits that this renders the rejection under section 101 moot, and requests that it be withdrawn.

2. Rejections under Section 103

Claims 1-35, 37-71 and 73-78 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,044,212 ("Flavin") in view of U.S. Patent No. 6,044,617 ("Schultz"). The applicant respectfully disagrees.

As amended, claim 1 is directed to a computer-implemented method for generating a library design for a combinatorial library of materials. According to the claimed method, a graphical user interface is provided that includes a workspace for designing a library of materials. One or more sources and one or more destinations are defined, with each source representing a chemical or mixture of chemicals to be used in preparing the combinatorial library and each destination representing an arrangement of cells. A visual representation of one or more of the defined destinations is displayed in the workspace of the graphical user interface, with each destination representation including a representation of one or more cells in the corresponding arrangement. A mapping is defined based on user input, where the first mapping defines a gradient distribution pattern for assigning a first chemical or mixture of chemicals represented by one of the defined sources to a plurality of cells in the defined destinations. In particular,

the input specifies the gradient distribution pattern according to a minimum and a maximum amount of the first chemical or mixture of chemicals to be assigned to any of the plurality of cells in the corresponding destination and a gradient to be applied between the minimum and maximum amounts of the first chemical or mixture of chemicals across the plurality of cells. The first mapping is used to calculate amounts of the first chemical or mixture of chemicals to be deposited in each of the plurality of cells, and the visual representation of the defined destinations is modified to include a visual indication of the calculated amounts. Claim 1 is thus directed to a visual library design method, in which a visual representation of a destination arrangement is displayed in the workspace of a graphical user interface, user input is received that defines a gradient mapping of a chemical or mixture of chemicals across a plurality of cells in the destination arrangement, and the visual representation is modified to visually indicate amounts of the chemical or mixture of chemicals to be deposited in the plurality of cells according to the gradient mapping.

As noted in the previous responses, neither Flavin nor Schultz discloses or suggests techniques for defining gradient-based library designs in a graphical library design tool. More specifically, Flavin does not disclose or suggest any techniques by which a user can define a mapping scheme that describes a pattern for distributing chemicals or mixtures of chemicals across cells in a destination arrangement, much less any techniques in which the user can define a gradient mapping scheme for a chemical or mixture of chemicals, and can view a visual indication of the resulting mapping amounts in a visual representation of the destination arrangement. And while Schultz does disclose the use of gradients of materials on a library substrate, it does not disclose or suggest visual design techniques that permit the user to view a representation of a destination arrangement, input a gradient mapping for a chemical or mixture of chemicals, and view a modified destination representation that indicates amounts of the chemical or mixture to be deposited in the various cells calculated from the gradient mapping. Because the cited references, alone or in combination, do not disclose or suggest at least these limitations of claim 1, the applicant respectfully submits that no *prima facie* showing of obviousness has been established with respect to that claim, or dependent claims 3-9, 11-14, and 91 (or analogous computer program product claims 37,

39-45, 47-50 and 96), and respectfully requests that the rejections under section 103(a) be withdrawn as to these claims.

Amended claim 19 is directed to a related computer-implemented method, also for generating a library design for a combinatorial library of materials. According to the method of claim 19, a workspace for designing a library of materials is provided in a graphical user interface. As in claim 1, one or more sources and one or more destinations are defined, with each source representing a chemical or mixture of chemicals to be used in preparing the combinatorial library and each destination representing an arrangement of cells. A visual representation of one or more of the defined destinations is again displayed in the workspace of the graphical user interface, with each destination representation including a representation of one or more destination areas, each of which includes one or more cells in the corresponding arrangement. User input specifies a plurality of equations and one or more of the plurality of equations is associated with one or more of the destination areas. The plurality of equations is solved to calculate amounts of one or more chemicals or mixtures of chemicals represented by the defined sources to be assigned to one or more cells in the arrangements represented by the defined destinations, where the amounts of the one or more chemicals or mixtures of chemicals to be assigned to a given cell in the arrangements is calculated according to the equations associated with the area or areas that include the cell. Finally, the visual representation of the defined destinations is modified to include a visual indication of the calculated amounts.

Neither Flavin nor Schultz, alone or in combination, discloses visual library design techniques in which chemicals or mixtures of chemicals are assigned to cells in a destination arrangement in amounts calculated based on user-specified equations associated with areas of the destination, much less techniques in which a plurality of user-specified equations is solved, and a visual indication of the resulting amounts is presented in a visual representation of the destination arrangement. Because Flavin and Schultz do not disclose or suggest at least these limitations of claim 19, the applicant respectfully submits that no *prima facie* showing of obviousness has been established with respect to that claim, or dependent claims 21-24, 27, 29, and 92-95 (or analogous computer program product claims 55, 57-60, 63, 65, and 97-100), and respectfully

requests that the rejections under section 103(a) be withdrawn as to these claims.

3. Conclusion

The applicant submits that all claims are now in condition for allowance. Please charge the fee of \$980.00 for a three month extension to Deposit Account 50-0496. Should any other charges be due, the Commissioner is authorized to charge the above-referenced deposit account.

Respectfully submitted,

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^{5th}
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PAS

By:



Paul A. Stone
Reg. No. 38,628

Attorney for Applicant

Symyx Technologies, Inc.
3100 Central Expressway
Santa Clara, CA 95051
Phone: (408) 720-2523
Fax: (408) 773-4029